Austrobaileya 2(2): 192–197 (1985)

NEW SPECIES FROM BLACKDOWN TABLELAND, CENTRAL QUEENSLAND—1.

by R.J.F. Henderson

Queensland Herbarium, Brisbane.

Summary

Hardenbergia perbrevidens (Fabaceae) and *Logania diffusa* (Loganiaceae) are described.

During my collecting trips to the Blackdown Tableland in central Queensland in 1971 and 1973, material of several new taxa was collected. A general account of the tableland and its botany has already been given (Henderson, 1976 a & b). In identifying my material I had cause to examine specimens collected earlier in the same locality by other botanists and plant collectors. From all the above and the more extensive collections of the Queensland Herbarium the following two new species have been segregated. Other, possibly distinct, taxa remain for more detailed study to determine their status.

Hardenbergia perbrevidens R. Henderson, sp. nov. affinis *H. violaceae* (Schneev.) Stearn sed foliis trifoliolatis, foliolis infra ± glaucis, papillis numerosis microscopis pallidis, lobis calycis ¼ — 1/5 longitudem tubi aequantibus, par superum connatum ± semicirculare, late obtusum vel paulo retusum, lobi alii late triangulares vel ± semicirculares sed apiculati, leguminibus magnioribus seminibus oblongis, impolitis, maculosis, magnioribus differt. **Typus**: *Gittins* 374 (holotypus, BRI (BRI 030820); isotypus, CANB).

Hardenbergia bimaculata var. *trifoliolata* Domin, Bibliotheca Botanica 89: 220 (1926). **Typus**: Cape River [Qld], *Bowman* 161 (? holotypus, MEL).

Caules tenues, volubiles, ± glabri. Folia trifoliolata; petioli 1.5–3.5 cm longi; rhachis 0.6–1 cm longa; foliola anguste ovata vel anguste elliptica, 2–9.5 cm longa et 0.5–3 cm lata, ad apicem obtusa vel cordata sed mucronata, ad basem obtusa vel cordata, infra ± glauca. Inflorescentiae racemosae vel racemiformes, 3–20 cm longae. Flores usque ad c. 1 cm longi, singulares vel 2–4 aggregati. Calyx glaber, praeter marginem fimbriatum, 3.5–4 mm longus, par superum loborum lobo ± semicirculari, usque ad c. 0.8 mm longo connatum, lobi alii 3 ± consimili, late triangulari, usque ad c. 0.6 mm longi. Corolla purpurea luteo notata. Ovarium glabrum, ovulis 6–9. Legumen complanatum, glabrum, 4.5–6 cm longum et c. 1 cm latum. Semina oblonga-reniformia, 6–7 mm longa, impolita, olivacea purpura maculosa; arillus carnosus, 2.5–3 mm longus.

Stems slender, twining, ± glabrous, striate. Leaves trifoliolate; petioles 1.5–3.5 cm long; rhachis 0.6–1 cm long; leaflets narrowly ovate to narrowly elliptic, 2–9.5 cm long and 0.5–3.5 cm wide, obtuse or cordate but mucronate at the tip, obtuse or cordate at the base, lower surface ± glaucous, densely covered with ± microscopic pallid papillae. Inflorescences racemose or racemiform, 3–20 cm long; peduncle glabrous, 0.8–5.5 cm long. Flowers to about 1 cm long, single or in groups of 2–4 along the rhachis; pedicels glabrous, 2–6 mm long. Calyx glabrous except for fimbriate margins, 3.5–4 mm long, the upper pair of lobes fused ± completely to form a single ± semicircular obtuse truncate or retuse lobe to about 0.8 mm long, the remaining 3 lobes ± broadly triangular or semicircular but apiculate, ± equal in size and up to about 0.6 mm long. Corolla deep mauve to purple with yellow marks towards the base of each petal. Ovary glabrous, with 6–9 ovules. Pod at maturity flattened, glabrous, 4.5–6.5 cm long and about 1 cm wide, grey-brown to black; seed oblong-reniform, 6–7 mm long, dull, light green to brown and mottled with purple, oblique to almost transverse in the pod; aril fleshy, 2.5–3 mm long. **Fig. 1.**

LEICHHARDT DISTRICT: Blackdown Tableland, c. 12 miles [19 km] SSE of Bluff township, altitude c. 1800–1900 feet [540–580 m], 20 Sep 1959, *R. Johnson* 1014, on small shelf on northern face with *Casuarina torulosa*, bloodwood and *Livistona* sp. (BRI); Blackdown, Jul 1961, *Gittins* 374 (BRI, CANB); Blackdown Tableland, altitude c. 400 m, 28 Nov 1972, *L. Johnson & Blaxell* 916, on slopes below northern escarpment with *Eucalyptus citriodora, E. cloeziana, Livistona* sp. and *Tristania conferta* (NSW); Wafer's Spur, Blackdown Tableland, 23° 44'S, 149° 07'E, 13 Jun 1977, *Crisp* 3004, skeletal sandy soil on sandstone, common creeper under open forest with *Eucalyptus cloeziana* & *E.* spp. (CBG); camping area on Nogoa River, Salvator Rosa National Park, 31 Aug 1977, *Blaxell* 1490 *& Armstrong*, on sandstone rocky ridge in tall open woodland of *Eucalyptus crebra, E. peltata, Angophora costata* and *Acacia* sp. etc. (NSW); Pythagoras Mt, Salvator Rosa National Park, 24° 50'S, 147° 03'E, 27 Oct 1981, *Ballingall & Cockburn* MEB 393, sheltered valley at base of mountain spur, sandstone and sand, shrub trailing and twining rarely climbing (CBG). NORTH KENNEDY DISTRICT: 8 miles [12.8 km] W of Pentland township, 20 Jun 1953, *Perry* 3557, in sandy creek bed (BRI); Cape River, *E. Bowman* 161 (MEL).

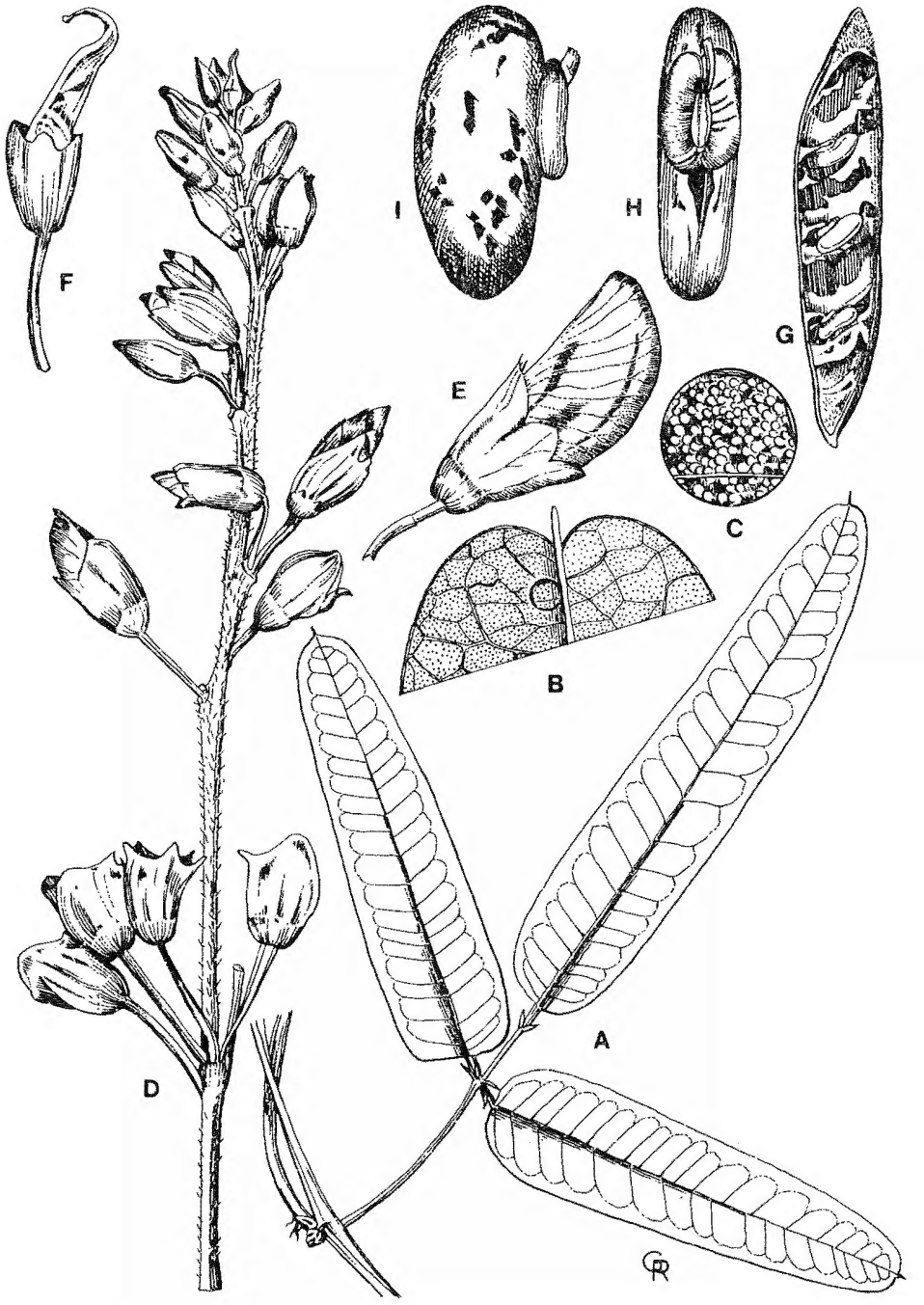

Fig. 1. *Hardenbergia perbrevidens*: A. leaf showing principal venation on adaxial surface of leaflets x 1. B. tip of leaflet showing venation on abaxial surface x 3. C. enlarged marked portion on B showing microscopic pallid papillae x 50. D. terminal portion of inflorescence x 3. E. bud near time of opening x 6. F. bud after corolla has fallen x 3. G. one pod-valve from inside showing orientation of young seed x 1. H. mature seed (end elevation) x 6. I. mature seed (side elevation) x 6. (All except B, C & E from *Gittins* 374; B & C from *Johnson* 1014; E from *Perry* 3557.)

The specific epithet is derived from the plant's very short calyx lobes.

This appears to be a relatively uncommon plant occurring on sandy soils in inland north-eastern Queensland. On the Blackdown Tableland it occurs with *H. violacea* but is distinguished from that species principally by the trifoliolate leaves, the comparatively short and broadly triangular calyx lobes ¼ to 1/5 the length of the calyx tube, the larger, longer pods with larger, oblong dull purple mottled green-brown seeds. In the trifoliolate leaves *H. perbrevidens* is similar to some forms of the Western Australian *H. comptoniana* Benth. but is clearly distinguished from that species by the greater fusion of the upper pair of calyx lobes, the much shorter and broader calyx lobes, the glabrous rather than pubescent pedicels and the larger, flattened pods with seeds ± transverse rather than longitudinal.

In dealing with *Hardenbergia violacea* (as *Caulina monophylla*) in Australia, Mueller (1871) mentioned and described but did not formally name a variety with trifoliolate leaves collected by E.M. Bowman on the Cape River, north Queensland. When dealing with *Hardenbergia*, Domin (1926) formally named this taxon *H. bimaculata* var. *trifoliolata* on the basis of the above Mueller reference, for he noted that the form was unknown to him. Examination of *Bowman* 161 (MEL 104303), no doubt the basis for Mueller's note under *Caulina monophylla* and hence type of this Domin name, shows that Domin's name is a synonym of *H. perbrevidens*. I have refrained from raising Domin's epithet to species rank because trifoliolate leaves are also a character of *H. comptoniana*.

Logania diffusa R. Henderson, sp. nov. affinis *L. albiflorae* (Andr.) Druce sed statura parviore, foliis linearibus acutis, subter breviter pubescentibus (non papillosis), floris paucioribus, parvioribus lobis corollae tubum corollae excedentibus, in corymbos parviores portatis differt. **Typus**: *Gittins* 880 (holotypus, BRI (BRI 057085)(♂)).

Frutices diffusi, 0.3–1 m alti, dioecii. Rami patentes juventute minute pubescentes. Folia angusti-linearia, subtus breviter pubescentia (inter costam et margines), marginibus revolutis, plerumque minus quam 3 cm (raro usque 3.5) cm longa et usque 1 mm lata, ± sessila, apice minute incrassato conico acuto, ± dense aggregata secus ramos. Flores in statu vivo valde olentia, in corymbos breves axillares multo breviores quam folia aggregata. Corollae albidae, minus quam 2 mm longae, lobi corollae longiores quam tubum corollae. Flores masculini gynoeciis rudimentariis, usque ad c. 10 in quoque corymbo; stamina epipetala, breviter exserta. Flores feminei staminibus rudimentariis, c. 3–5 in quoque corymbo; ovarium bilobum, biloculare, ovulo bilobo solitario in quoque loculo; stylus brevis; stigma incisure minuta bilobum. Capsula ± ovata, minus quam 3 mm longa.

Diffuse shrubs 0.3–1 m tall, dioecious. Branches spreading, the younger ones minutely pubescent. Leaves narrow-linear, shortly pubescent on the undersurface (between midrib and margins), margins revolute, usually less than 3 (rarely up to 3.5) cm long and up to 1 mm wide, ± sessile, with the tip conical, thickened and acute, ± crowded along the branches. Flowers when fresh strongly sweet-perfumed, clustered in short axillary corymbs much shorter than the leaves; corollas white, less than 2 mm long, lobes longer than the tube: male flowers with rudimentary gynoecia, up to c. 10 per corymb; stamens epipetalous, shortly exserted: female flowers with rudimentary stamens, c. 3–5 in each corymb; ovary bilobed, bilocular with 1 bilobed ovule in each cell; style short; stigma distinctly notched. Capsule ± ovate, less than 3 mm long. **Fig. 2 & 3.**

LEICHHARDT DISTRICT: Blackdown Tableland, 12 miles [19 km] SSE of Bluff township, altitude c. 2200 feet [670 m], Sep 1959, *R.W. Johnson* 1126, on sandy soil near northern scarp in open forest with *Eucalyptus* spp. and *Casuarina torulosa*, (♂); Blackdown Tableland, Jul 1961, *C.H. Gittins* 380, (♀), May 1962, *C.H. Gittins* s.n., (♀), Aug 1964, *C.H. Gittins* 880, (♂); Blackdown Tableland, altitude 2600 feet [c. 790 m], Aug 1973, *G.W. Trapnell* 54 & *K.A.W. Williams*, on sandy soils, (♂); Blackdown Tableland, Aug 1980, *K.A.W. Williams* 80207, in sandy clay with high percentage of sandstone outcropping and loose surface stones, shrub heathland at beginning of descent from tableland, (♂); windblown escarpment, Blackdown Tableland, Aug 1981, *S.G. Pearson* 273, dry stony soil with stunted Banksia, Leptospermum, Yellow Jacket and Bloodwood, (♂); (all BRI).

The specific epithet is derived from the habit of the plant.

As presently known this species has a very restricted distribution and is perhaps endemic on the Blackdown Tableland. It was not collected during my extensive, detailed collecting forays to the Tableland in 1971 and 1973 (Henderson, loc. cit.) and seems therefore a relatively uncommon plant even on the Tableland.

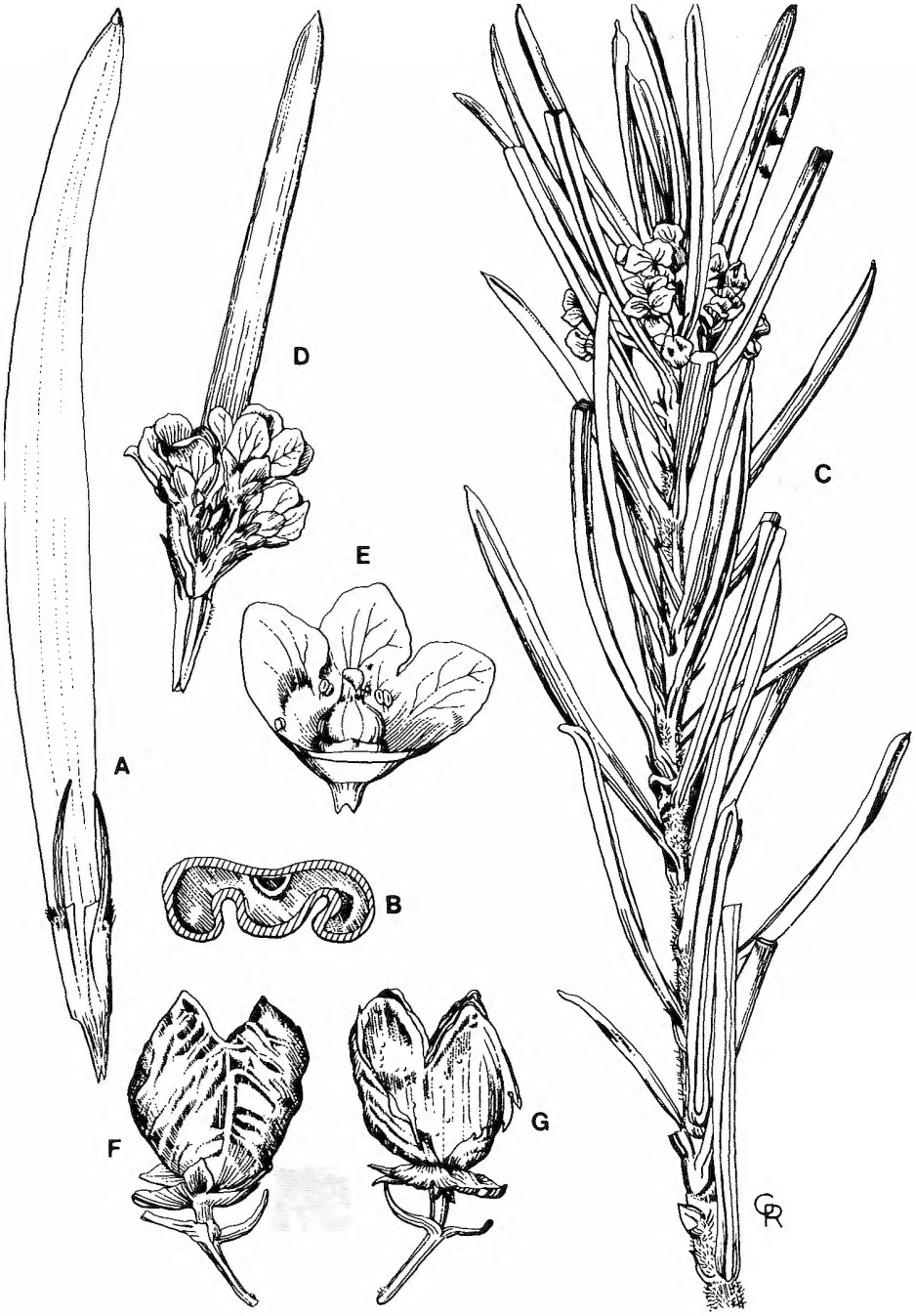

Fig. 2. *Logania diffusa*: A. leaf with paired deciduous stipules x 12. B. T.S. of leaf blade showing recurved margins (diagrammatic) x 12. C. twig with subapical axillary flower clusters (♀) x 3. D. detached leaf with axillary cluster of 3 ♀ flowers x 6. E. ♀ flower with part of perianth removed to show gynoecium and rudimentary stamens x 12. F. dehisced capsule showing outer surfaces x 8. G. dehisced capsule showing inner surfaces x 8. (All from *Gittins* 380.)

Fig. 3. *Logania diffusa*: A. twig with subapical axillary flower clusters (♂) x 3. B. detached leaf with axillary cluster of 7 ♂ flowers x 6. C. ♂ flower with part of perianth removed to show stamens and rudimentary gynoecium. (All from *Pearson* 273.)

Of the other Queensland species, *L. diffusa* is most like *L. albiflora*, a widespread species which occurs commonly on the Blackdown Tableland. That species is clearly distinguished from *L. diffusa* by its generally taller stature, broader leaves covered only with dense papillae on the undersurfaces, larger corymbs with more numerous flowers, included stamens and corolla with lobes shorter than the tube, and larger fruit. *L. diffusa* is superficially very like some extremely narrow-leaved forms of *L. albiflora* from central eastern New South Wales and Victoria (as represented by specimens in BRI) but the type of indumentum on its leaves and the characteristics of its flowers will serve to distinguish it from those forms.

References

DOMIN, K. (1926). Beiträge zur Flora und Pflanzengeographie Australiens. *Bibliotheca Botanica* 89: 220.

HENDERSON, R.J.F. (1976a). History of Floristics of Blackdown Tableland, Central Queensland. *Queensland Naturalist* 21 (5–6): 119–124.

HENDERSON, R.J.F. (1976b). Plants of Blackdown Tableland. *Queensland Naturalist* 21 (5–6): 125–132.

MUELLER, F. (1871). *Fragmenta Phytographiae Australiae* 7: 128.